CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2006-0083

UPDATED WASTE DISCHARGE REQUIREMENTS AND
RESCISSION OF ORDER NO. 96-153 FOR:

PESCADERO SOLID WASTE DISPOSAL SITE
COUNTY OF SAN MATEO
PESCADERO, SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

DISCHARGER AND LOCATION

1. Owner, operator, and discharger named: The inactive Pescadero Solid Waste Disposal Site (Pescadero Landfill) is owned by San Mateo County. San Mateo County is hereinafter referred to as the Discharger.

2. Landfill location and description: Pescadero Landfill is located approximately 1.5 miles from the town of Pescadero (see Figure 1) and consists of an older seven acre portion, and a newer 54 acre portion. Both the older and newer portions of the landfill were formed by placing waste directly upon the ground surface. The older portion of the landfill is gently graded and utilized as a vehicle maintenance facility. The newer portion of the landfill is undeveloped; adjacent to the newer portion is a transfer station operated by Allied Waste (formerly Browning Ferris Industries). The areas surrounding the landfill are predominantly agricultural and recreational areas and open space.

PURPOSE OF ORDER UPDATE

3. Update of Waste Discharge Requirements: This order updates Waste Discharge Requirements (WDRs) for the Pescadero Landfill to include general provisions and tasks necessary to continue the established design criteria for the landfill's containment systems and to update and revise the landfill's groundwater, surface water, and leachate monitoring programs. In addition, this order rescinds Order No. 96-153.

SITE DESCRIPTION

4. Waste placement: Pescadero Landfill is an unlined landfill located in the coastal hills. The older portion of the landfill received waste from 1962 to 1973. The newer portion of the landfill received waste from 1973 to 1986.

5. Waste types and classification: Waste received at the landfill consists of non-hazardous residential, commercial and industrial solid waste classified in CCR Title 27, Section 20220(a) as Class III wastes. Class III waste includes but is not limited to: all putresible and nonputresible solid, semi-solid, and liquid wastes including household garbage, green waste, paper, metal, animal waste, industrial wastes, demolition and construction wastes, and soil.

6. Leachate containment and minimization: At the older portion of the landfill, water quality impacts are reduced by surface grading, which minimizes the infiltration of precipitation and generation of landfill leachate.

   At the newer portion of the landfill, the following methods are utilized to reduce the potential for water quality impacts:

   - promotion of runoff by surface grading;
   - peripheral drainage ditches which divert surface water runoff away from the landfill;
   - diversion of groundwater by an underdrain in upgradient areas of the landfill; and,
   - installation of subsurface clay barriers at the landfill toe which reduce the potential for migration of leachate beyond the landfill footprint.

7. Landfill cap: Landfill waste is contained at both the older and newer portions by grading waste materials and covering with clean dirt. The older portion of the landfill is graded nearly flat, compacted, and covered with gravel. The cover at the older portion of the

landfill is consistent with closure requirements prior to establishment of Title 27 closure standards. The newer portion of the landfill is graded with slopes of less than 30%. Erosion of cover materials at the newer portion is prevented by grassy vegetation. A final engineered cap needs to be installed at the newer portion of the landfill (Provision 5 and 6). A prescriptive engineered cap consistent with Title 27 includes: 1) a foundation layer of 2 feet minimum thickness consisting of clean soil or treated soil placed above compacted waste; 2) a low permeability layer of 1 foot minimum thickness with a hydraulic conductivity of 1×10^{-6} cm/s or less; 3) a protective/vegetative soil layer of 1 foot minimum thickness.

REGULATORY HISTORY

8. Previous Order: The most recent Board Order for the site is Order No. 96-153, Waste Discharge Requirements for the Pescardero Landfill, adopted in November, 1996.

SITE GEOLOGIC AND HYDROGEOLOGIC SETTING

9. Stratigraphy: The materials immediately underlying the Pescadero Landfill include surficial deposits of black adobe soils, colluvium, and landslide deposits. The surficial deposits are underlain by terrace deposits of gravel, sand and silt. Underlying the terrace deposits is bedrock of the Pigeon Point Formation, consisting of conglomerate, sandstone, siltstone, and shale.

10. Surface water: Within the valley containing the landfill are a small stream and spring which flow only during the rainy season. The older portion of the landfill is located near the mouth of the valley at the confluence of Butano and Pescadero Creek. The newer portion of the landfill is located on a sideslope at the upper portion of the valley. No perennial surface waters or large volumes of concentrated precipitation flow through the landfilled areas. The primary source of surface waters at the landfill is precipitation directly to the landfill.

11. Groundwater: Groundwater flows to the north-northwest, following the general canyon topography. Depth to groundwater varies according to lithologies and season, ranging from less than 5 feet to greater than 40 feet below the ground surface. The major water-bearing unit identified at the site includes the permeable surficial and terrace deposits, which transmit enough water to be considered an aquifer. The lower hydrostratigraphic unit, consisting of the bedrock of the Pigeon Point Formation, is relatively impermeable

and is not considered an aquifer. The bedrock creates perched water conditions in the overlying terrace deposits and surficial materials. During periods of high rain, groundwater is discharged at the surface in the form of springs and small streams.

12. Geologic structure and landfill stability: No known active faults (defined as faults showing displacement within the past 11,000 years) were identified within the area of the landfill. An inactive fault is located ½ mile northeast of the landfill. The drainage area beneath the landfill is defined by the underlying synclinal fold; the fold axis is parallel to the drainage. The local folding and faulting is related to the San Andreas fault system. The seismic stability of the landfilled materials has not been evaluated.

SITE CONTAMINATION AND WATER QUALITY

13. Contamination originating at landfill: Because of the shallow depth to groundwater and the absence of a liner and leachate extraction, it is presumed that leachate generated at the landfill has migrated downward and commingled with groundwater. Groundwater monitoring at the newer portion of the landfill has been conducted since the mid-1970's. The monitoring indicates no significant impacts to groundwater quality from the landfill. Only trace levels of VOCs (below MCLs) have been detected in groundwater, and metals concentrations are below drinking water limits.

14. Board Resolution No. 89-39: Board Resolution 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas containing high TDS (greater than 3000 mg/l TDS), high background contaminant levels, or those areas with a low-yield. Some groundwater underlying and adjacent to the site qualifies as a potential source of drinking water, although there is no current use of the site's groundwater, nor any anticipated plans for its use.

BASIN PLAN

15. The Board adopted a revised Water Quality Plan for the San Francisco Bay Basin (Basin Plan) on January 21, 2004. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resource Control Board and the Office of the Administrative Law on July 22, 2004, and October 4, 2004, respectively, and approved by the U.S. Environmental Protection Agency, Region IX on January 5, 2005. A summary of regulatory provisions is contained in 23 CCR. The Basin Plan defines beneficial uses and

water quality objectives for waters of the State, including surface waters and groundwater.

BENEFICIAL USES

16. The beneficial uses of groundwater beneath the landfill include:

    a. Domestic and municipal supply
    b. Agricultural supply
    c. Industrial process and service supply
    d. Groundwater recharge
    e. Discharge to Butano Creek and Pescadero Creek

17. The beneficial uses of Butano Creek and Pescadero Creek include:

    a. Wildlife and estuarine habitat
    b. Contact and non-contact water recreation
    c. Fish migration and spawning
    d. Preservation of rare and endangered species
    e. Shellfish harvesting
    f. Groundwater recharge
    g. Agricultural supply
    h. Municipal and domestic supply

MONITORING PROGRAMS

18. Groundwater Monitoring – Currently, groundwater at the newer portion of the landfill is monitored by 3 groundwater monitoring wells. The monitoring wells, located at the landfill perimeter, are screened though the upper hydrostratigraphic unit, which includes the permeable surficial and terrace deposits. The wells are monitored on a yearly basis for general water quality parameters, and for a more extensive list of compounds every 5 years. Groundwater at the older portion of the landfill has historically not been monitored.

19. Leachate Monitoring – Leachate at the old portion of the landfill has not been monitored. Leachate at the new portion of the landfill has been monitored at the three groundwater monitoring wells at the landfill perimeter. Monitoring results indicate that leachate at the newer portion of the landfill is contained within the area of the landfill footprint, and that

the leachate has not significantly impacted groundwater. Only trace levels of VOCs have been detected in groundwater, and metals concentrations are below drinking water limits.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

20. CEQA: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15301 of the Resources Agency Guidelines.

21. Public notice: The Board has notified the Discharger and interested agencies and persons of its intent to adopt revised, updated Waste Discharge Requirements for the Discharger and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

22. Public meeting: The Board, in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, its agents, successors and assigns shall meet the applicable provisions contained in Title 27, Division 2, Subdivision 1 of the California Code of Regulations and Division 7 of the California Water Code and shall comply with the following:

A. PROHIBITIONS

1. The relocation of wastes to or from any waste management unit shall not create a condition of pollution or nuisance as defined in Section 13050 (l) and (m) of the California Water Code. Any relocated waste shall not be placed in or allowed to contact ponded water from any source whatsoever. Wastes shall not be relocated to any location where they can be discharged into waters of the State or of the United States.

2. Leachate and ponded water containing leachate or in contact with waste shall not be discharged to waters of the State or of the United States unless specifically authorized under an NPDES permit.

3. Buildup or mounding of leachate levels within the landfill shall be prevented by operation of a leachate extraction system. The depth of leachate shall be kept at

levels sufficient to maintain an inward gradient as necessary to insure efficient operation of the leachate extraction system.

4. The creation of any new waste management units is prohibited without prior Board approval.

5. The Discharger shall not excavate within or reconfigure any existing waste management unit without prior Board approval.

6. No additional waste shall be deposited or stored at this site after closure is completed.

7. The Discharger, or any future owner or operator of the site, shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

   a. Surface Waters

      - Floating, suspended, or deposited macroscopic particulate matter or foam.
      - Bottom deposits or aquatic growths.
      - Alteration of temperature, turbidity, or apparent color beyond natural background levels.
      - Visible, floating, suspended or deposited oil or other products of petroleum origin.
      - Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

   b. Groundwater

      - Further degradation of groundwater quality.
      - Substantial worsening of existing groundwater impacts.

8. The Discharger shall not disc the landfill cap. Alternate methods of controlling vegetative growth, which do not affect the integrity of the landfill cap, shall be utilized.

B. SPECIFICATIONS

1. All reports pursuant to this order shall be prepared under the supervision of a California registered professional civil engineer, professional geologist or certified engineering geologist.

2. The site shall be protected from any washout or erosion of wastes or cover material and from inundation that could occur as a result of a 100-year, 24-hour precipitation event, or as the result of flooding with a return frequency of 100 years.

3. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes during the life of the site.

4. The existing containment, drainage, and monitoring systems at the facility, shall be maintained as long as leachate is present and poses a threat to water quality.

5. The Discharger shall assure that the structures, which control leachate, surface drainage, erosion and gas are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

6. The final cap system shall be graded and maintained to promote lateral runoff and prevent ponding and infiltration of water.

7. The Discharger shall analyze the samples from any groundwater or leachate wells as outlined in the Discharge Monitoring Program (Attachment A).

8. The Discharger shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any future Discharge Monitoring Program issued by the Executive Officer.

9. Landfill gases shall be adequately vented, removed from the landfill, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water.

10. The Discharger shall maintain all devices or designed features installed in accordance with this Order, such that they continue to operate as intended without interruption.

11. The Board shall be notified immediately of any failure occurring in the waste management unit. Any failure that threatens the integrity of containment features or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.

12. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.

13. The Discharger shall maintain the facility so as to prevent a statistically significant increase in water quality parameters at points of compliance as provided in Section 20420 of Title 27.

14. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

C. PROVISIONS

1. The Discharger shall comply immediately, or as prescribed by the time schedule below, with all Prohibitions, Specifications and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these WDRs. Violations may result in enforcement actions, including Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Board. [CWC Section 13261, 13263, 13265, 13267, 13268, 13300, 13301, 13304, 13340, 13350].

2. All technical and monitoring reports required pursuant to this Order are being requested pursuant to Section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to Section 13268 of the California Water Code.

PROVISION 3 and 4 APPLY ONLY TO THE OLDER PORTION OF THE LANDFILL

3**. WORKPLAN FOR GROUNDWATER SAMPLING**

COMPLIANCE DATE: **April 1, 2007**

The Discharger shall submit a workplan, acceptable to the Executive Officer, for evaluating whether groundwater at the older portion of the landfill has been significantly impacted by landfill waste. The workplan shall describe the investigation methods and a schedule of activities for evaluating hydrogeologic conditions and contaminant concentrations levels.

4**. RESULTS OF GROUNDWATER SAMPLING**

COMPLIANCE DATE: **August 1, 2008**

The Discharger shall submit a technical report, acceptable to the Executive Officer, which provides the results of implementation of the workplan described in Provision 3. If appropriate, the technical report shall also propose additional investigation necessary to sufficiently define the extent of any significant water quality impacts.

PROVISION 5 THROUGH 7 APPLY ONLY TO THE NEWER PORTION OF THE LANDFILL

LANDFILL CONSTRUCTION

5. **FINAL COVER CONSTRUCTION PLANS**

COMPLIANCE DATE: **April 1, 2008**

The Discharger shall submit a technical report, acceptable to the Executive Officer, which proposes methods and a schedule of activities necessary to install a final landfill cover at the newer portion of the landfill by **January 30, 2009**. The report shall address the final cover design and installation, and the associated issues pertinent to leachate and landfill gas extraction, containment, and minimization, as well as landfill monitoring programs. Any variance to the prescriptive landfill cover design specified in Title 27 must be described in detail.

6. **FINAL COVER CONSTRUCTION CERTIFICATION LETTER (CCL) AND CONSTRUCTION QUALITY ASSURANCE REPORT (CQA)**

COMPLIANCE DATE: 90 days after final cover is completed in area of newer portion of the landfill

The Discharger shall submit a CCL and a CQA report signed and stamped by a registered professional civil engineer or engineering geologist, following completion of final cover in newly closed areas of the landfill. The CCL letter

shall certify that the closure was completed in compliance with this Order, approved design plans, and Title 27. The CQA report shall be acceptable to the Executive Officer, and include, at a minimum, a detailed summary of the landfill final cover construction, as-built construction drawings, updated topographic maps, and results of quality assurance testing and monitoring.

LANDFILL STABILITY

7. **POST-EARTHQUAKE INSPECTION AND CORRECTIVE ACTION REPORTS**

COMPLIANCE DATE: Within 72 hours of the occurrence of an earthquake of magnitude 6 or higher

The Discharger shall submit a technical report, acceptable to the Executive Officer, which describes implementation of the Post Earthquake Inspection and Corrective Action Plan for the landfill for any earthquake greater than Richter Magnitude 6 at or within 30 miles of the landfill. The report shall describe the results of the post earthquake inspection and any corrective actions necessary to insure landfill stability and prevent water quality impacts which may result from seismic events.

WATER QUALITY IMPACTS AND LANDFILL MONITORING

8. **ANNUAL MONITORING REPORT**

COMPLIANCE DATE: January 31 of each year

The Discharger shall submit an Annual Monitoring Report, acceptable to the Executive Officer, by January 31 of each year in accordance with the attached Discharge Monitoring Program (Attachment A). The annual report to the Board shall cover the previous calendar year as described in Part A of the Monitoring Program. In addition to the requirements outlined in Attachment A, this report shall also include the following: location and operational condition of all leachate and groundwater monitoring wells; and a site map delineating groundwater and leachate levels for each monitoring event.

9. **SEMI-ANNUAL MONITORING REPORT**

COMPLIANCE DATE: July 31 and January 31 of each year

The Discharger shall submit semi-annual monitoring reports, no later than July 31 and January 31 of each year in accordance with the attached Discharge Monitoring Program (Attachment A). The January 31 semi-annual report may be combined with the annual report.

10. **ANNUAL MAINTENANCE REPORT**

COMPLIANCE DATE: January 31 of each year

The Discharger shall submit a technical report to the Board, acceptable to the Executive Officer, detailing the repair and maintenance activities that need to be completed prior to the commencement of the next rainy season (starting October 15 of each year). This letter report shall also include a description and schedule for repair and maintenance activities, and a cost analysis detailing the anticipated expense for all repairs, maintenance and monitoring during the next 12 months. Repair and maintenance estimates shall be based on rainy season inspections conducted throughout the winter as required in the Discharge Monitoring Program.

11. **WELL INSTALLATION REPORT**

COMPLIANCE DATE: 45 days following completion of well installation activities

The Discharger shall submit a technical report, acceptable to the Executive Officer, that provides well construction details, geologic boring logs, and well development logs for all new wells installed as part of the Discharge Monitoring Program (Attachment A). Additionally, rationale shall be included for the calculation of the extent of groundwater subdrain setback from the last observed sidewall seep or spring. This rationale shall consider estimated peak flow/discharge conditions, landfill containment structures, and variations in lithologies.

12. **CHANGE IN SITE CONDITIONS**

NOTIFICATION DUE DATE: Immediately upon occurrence
REPORTING DUE DATE: 30 days after initial notification

The Discharger shall immediately notify the Board of any flooding, ponding, settlement, equipment failure, slope failure, exposure of waste, liner leakage, or other change in site conditions that could impair the integrity of the landfill cap, waste or leachate containment facilities, and/or drainage control structures and

shall immediately make repairs. Within 30 days, the Discharger shall prepare and submit a technical report, acceptable to the Executive Officer, documenting the corrective measures taken.

13. The Discharger shall maintain a copy of these waste discharge requirements and these requirements shall be available to operating personnel at all times [CWC Section 13263].

14. The Discharger shall permit the Board or its authorized representative, upon presentation of credentials:

    a. Immediate entry upon the premises on which wastes are located or in which any required records are kept.
    b. Access to copy any records required under the terms and conditions of this order.
    c. Inspection of any treatment equipment, monitoring equipment, or monitoring methods required by this order or by any other California State Agency.
    d. Sampling of any discharge or groundwater governed by this order.

15. The Discharger shall submit, within 90 days after the closure of any portion of the landfill, a closure certification report which documents that the area has been closed according to the requirements of this Order and Title 27. The Discharger shall certify under penalty of perjury that all closure activities were performed in accordance with the most recently approved closure plan and in accordance with all applicable regulations.

16. In the event of any change in control/operator or ownership of land or parcel of land, or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. The Discharger must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgment that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. [CWC Sections 13267 and 13263]. The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and

statement. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

17. This Order is subject to Board review and updating, as necessary, to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics [CWC Section 13263]. The Executive Officer may specify minor changes to the Discharge Monitoring Plan as necessary.

18. Where the Discharger becomes aware that if they failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Board, shall promptly submit such facts or information [CWC Sections 13260 and 13267].

19. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Discharger from its liability under Federal, State or local laws, nor do they create a vested right for the to continue the waste discharge [CWC Section 13263(g)].

20. Provisions of these waste discharge requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected.

21. The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this order [CWC Section 13263(f)].

22. Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the office of Emergency Services of the discharge in

accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the Discharger is in violation of a prohibition in the applicable water Quality Control Plan [CWC Section 13271(a)].

23. The Discharger shall report any noncompliance that may endanger public health or the environment. Any such information shall be provided orally to the Executive Officer within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours [CWC Sections 13263 and 13267].

24. This Board's Order No. 96-153 is hereby rescinded.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on December 13, 2006.

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Bruce H. Wolfe
Executive Officer

Figures: Figure 1 - Location Map
Attachment: Attachment A - Discharge Monitoring Program

ATTACHMENT A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DISCHARGE MONITORING PROGRAM

FOR

PESCADERO SOLID WASTE DISPOSAL SITE
COUNTY OF SAN MATEO
PESCADERO, MATEO COUNTY

ORDER NO. R2-2006-0083

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste discharges are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Board's Resolution No. 73-16. This Discharge Monitoring Program is issued in accordance with Title 27 of the California Code of Regulations.

The principal purposes of a discharge monitoring program are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste dischargers in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the dischargers in complying with the requirements of Title 27.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA Standard Methods and in accordance with an approved sampling and analysis plan.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Board shall be signed by a duly authorized representative of the laboratory.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.

2. Receiving waters refers to any surface that actually or potentially receives surface or groundwaters that pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill areas and the surface runoff from the site are considered receiving waters.

3. Standard observations refer to:

a. Receiving Waters

1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
2) Discoloration and turbidity: description of color, source, and size of affected area.
3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
4) Evidence of beneficial use: presence of water associated wildlife.
5) Flow rate
6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Perimeter of the waste management unit.
1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
3) Evidence of erosion and/or daylighted refuse.

c. The waste management unit.
1) Evidence of ponded water at any point on the waste management facility.
2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
3) Evidence of erosion, slope or ground movement, and/or daylighted refuse.
4) Adequacy of access road
5) Standard Analysis and measurements are listed on Table A (attached)

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The Discharger is required to perform sampling, analyses, and observations in the following media:

1. Storm drain discharges per Section 20415
2. Groundwater and leachate per Section 20415

and per the general requirements specified in Section 20415(e) of Title 27.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the Discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.

2. Date and time of sampling.

3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.

5. Calculation of results.

6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. Monitoring Reports

Written monitoring reports shall be filed by January 31 and July 31 of each year. In addition an annual report shall be filed by January 31 of each year. The reports shall be comprised of the following:

a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the Discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:

1) A graphic description of the direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.

2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.

3) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.

4) A written discussion of the groundwater analyses indicating any change in the quality or characteristics of the groundwater.

c. A comprehensive discussion of the compliance record and status, as well as any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the Waste Discharge Requirements and 27CCR.

d. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

e. Laboratory statements with the results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Board shall be signed by a duly authorized representative of the laboratory.

1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review and approved by the Executive Officer prior to use.

2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that are outside laboratory control limits; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

f. An evaluation of the effectiveness of the leachate monitoring facilities, which includes an evaluation of leachate buildup within the disposal units and sump areas, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal/treatment methods utilized.

g. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.

h. The Annual Monitoring Report shall be submitted to the Board covering the previous year. The Report shall include, but is not limited to, the following:

i. A graphical presentation of the analytical data [Board-approved alternate procedure per 27CCR, Section 20415(e)(14)] for monitoring locations that have shown detectable concentrations during two consecutive monitoring events, or greater than ten percent detection frequency for any organic compound. Graphical representation must be provided for monitoring locations with metals and general chemistry analytical parameters that have an increasing trend for three consecutive monitoring events;

ii. A tabular summary of all the monitoring data obtained during the previous year;

iii. A comprehensive discussion of the compliance record, and the corrective actions taken or planed which may be needed to bring the Discharger into full compliance with the waste discharge requirements;

iv. A map showing the area, if any, in which filling has been completed during the previous calendar year;

v. A written summary of the groundwater analyses indicating any change in the quality of the groundwater; and

vi. An evaluation of the effectiveness of the leachate monitoring/control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate control volumes removed from the units, and a discussion of the leachate disposal methods utilized.

i. Tabular and graphical summaries of the monitoring data obtained during the previous year; the annual report should be accompanied by a compact disc, MS-EXCEL format, tabulating the year's data.

2. **Contingency Reporting**

A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days thereafter. This report shall contain the following information:

a) a map showing the location(s) of discharge if any;
b) approximate flow rate;
c) nature of effects; i.e. all pertinent observations and analyses; and
d) corrective measures underway, proposed, or as specified in the Waste Discharge Requirements.

3. **Well Logs**

A boring log and a monitoring well construction log shall be submitted for each new sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 45 days after well installation.

G. WATER QUALITY PROTECTION STANDARDS

1. Constituents of Concern: The Constituents of Concern (COC) for groundwater are those listed in Table 1 of this Discharge Monitoring Program.

2. Concentration Limits: Concentration Limits (CLs) for each COC are shown in Table 2. The CLs were set at the PQLs for most SVOCs and VOCs. CLs were set above the PQLs for certain constituents that were: 1) common laboratory contaminants (acetone, methylene chloride, bromoform, chloroform, toluene, phthalates, phenol); 2) derived from field sampling equipment and materials; and 3) periodically detected in some wells as a result of COC migration prior to implementation of corrective measures or as result of the presence of waste fill outboard of containment structures. The CLs are well below water quality criteria for Butano and

Pescadero Creeks and therefore are protective of human health and the environment.

3. Monitoring Points: Monitoring Points for the landfill are identified in Table 1 of this Discharge Monitoring Program. Because landfill operations predate collection of groundwater chemistry data at this site, background water quality monitoring locations do not exist; therefore, intra-well comparisons will be used for evaluating monitoring data. For those areas where COCs greater than the CLs existed prior to corrective measures (landfill closure), monitoring will be conducted to demonstrate that the levels of COCs have either stabilized or are decreasing.

4. Point of Compliance: The Point of Compliance for this facility is the vertical surface that extends from the outside edge of the lateral containment structures through the uppermost aquifer underlying the unit.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. GROUNDWATER, LEACHATE, AND STORMWATER MONITORING:

Semi-Annual Report: **due July 31 of each year**
Annual Report: **due January 31 of each year**

Groundwater shall be sampled and analyzed as detailed in Table 1. Monitoring well locations are shown in Figure A-1. CLs for groundwater sampled at the monitoring wells are shown in Table 2.

B. FACILITIES MONITORING - **Observe semi-annually, report annually**

Semi-Annual Report: **due July 31 of each year**
Annual Report: **due January 31 of each year**

The Discharger shall inspect all facilities to ensure proper and safe operation and report semi-annually. The facilities to be monitored shall include, but not be limited to:

1. Surface water ponding
2. Perimeter diversion channels and run-on/run-off control features
3. Interim and final cover system
4. Re-use areas

C. PHOTO DOCUMENTATION OF FACILITIES MONITORING - **Observe semi-annually, report annually**

Semi-Annual Report: **due July 31 of each year**
Annual Report: **due January 31 of each year**

The Discharger shall provide photo documentation of conditions at locations that include, but are not limited to the landfill facilities listed in Part B above. Locations from which photographs are taken should be permanent stations such that they can be used in successive reports.

D. SEEPAGE MONITORING

Semi-Annual Report: **due July 31 of each year**
Annual Report: **due January 31 of each year**

Seepage monitoring stations include any point at which seepage is found occurring from the disposal area. The landfill perimeter shall **be monitored semi-annually and the results reported semi-annually**.

Station	Description	Observations	Frequency
S-1 thru S-'n'	At any point(s) at which seepage is found occurring from the disposal area	Standard observations for the perimeter and standard analyses (Table 3, perform analyses once per seep)	Daily until remedial action is taken and seepage ceases

I, Bruce H. Wolfe, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. R2-2006-0083.

2. Is effective on the date shown below.

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.

_____
Bruce H. Wolfe
Executive Officer

Date Ordered: December 13, 2006

Attachment: Figure A-1 – Newer Portion Monitoring Well Location Map
Tables 1-3

Table 1 - Groundwater Monitoring Points, Parameters and Sampling Frequency
Pescadero Landfill

Monitoring Wells	Analytical Parameters	Sampling Frequency
All Groundwater Monitoring Wells MW-1R MW-2R MW-3R	**General Water Quality Parameters**: pH, Ammonia (total and unionized)	Semi-Annually
	VOCs: EPA Method 8260	Once every 5 years beginning in April 2007
	SVOCs: EPA Method 8270	Once every 5 years beginning in April 2007
	Dissolved Metals Arsenic, Barium Cadmium, Copper, Chromium, Lead Mercury, Nickel, Vanadium, Zinc	Annually
	Additional Metals: Antimony, Beryllium, Cobalt, Selenium, Silver, Thallium, Tin	Once every 5 years beginning in April 2007
	40 CFR 258 Appendix II constituents: Pesticides & PCBs: EPA Method 8080 Chlorophenoxy Herbicides: EPA Method 8151	Once every 5 years beginning in April 2007
	Cyanide: EPA Method 9010 Sulfide: EPA Method 9030	Once every 5 years beginning in April 2007

Table 1 Notes:
EPA methods: Arsenic (7060 or 6010), Barium (6010), Chromium (6010), Copper (6010), Lead (7421 or 6010), Mercury (7470), Nickel (6010), Vanadium (6010), Zinc (6010), Antimony (6010), Beryllium (6010), Cobalt (6010), Selenium (7741 or 7740), Silver (6010), Thallium (7841), Tin (6010)

This subset of the 40 CFR 258 Appendix I metals is used as a surrogate for the entire suite of Appendix I metals

Table 2 - Concentration Limits for Groundwater
Pescadero Landfill

Constituent of Concern	Practical Quantitation Limit	US EPA Test Method	Concentration Limits (ppb)
Specified VOCs		8260	
Acetone	20		100
Methylene chloride	10		50
Bromoform	10		50
Chloroform	10		50
Benzene	10		30
Toluene	10		50
Ethylbenzene	10		50
Xylene	10		50
Other VOCs	varies	8260	PQLs
Specified SVOCs		8270	
Phthalates	10		100
bis(2ethylhexyl)	10		50
butylbenzyl	10		50
di-ethyl	10		50
di-methyl	10		50
di-n-butyl	10		50
di-n-oxtyl	10		50
Phenol	10		100
Other SVOCs	varies	8270	PQLs
Metals[1]			
Arsenic	7	7060 or 6010	PQL/Background[2]
Barium	20	6010	PQL/Background[2]
Cadmium	5	6010	PQL/Background[2]
Chromium	10	6010	PQL/Background[2]
Copper	10	6010	PQL/Background[2]
Lead	5	7421 or 6010	PQL/Background[2]
Mercury	1	7470	PQL/Background[2]
Nickel	40	6010	PQL/Background[2]
Vanadium	10	6010	PQL/Background[2]
Zinc	20	6010	PQL/Background[2]
Antimony	5	6010	PQL/Background[2]
Beryllium	5	6010	PQL/Background[2]
Cobalt	10	6010	PQL/Background[2]
Selenium	10	7740 or 7741	PQL/Background[2]
Silver	20	6010	PQL/Background[2]

Thallium	5	7841	PQL/Background[2]
Tin	50	6010	PQL/Background[2]
Pesticides and PCBs	varies		PQLs
Chloropheynoxy Herbicides	varies		PQLs
Cyanide	10		PQLs

Table 2 notes:
[1]PQLs may vary based on the results of the laboratory's annual MDL survey and any sample dilution required because of matrix interferences. Metals data will provide supplemental information to the VOC and SVOC analyses and are not intended for use as indicator parameters apart from the VOC and SVOC analyses.

[2]Concentration Limit is the higher of either the routine PQL or the background value.

Table 3 - Leachate and Seepage Monitoring Points, Parameters and Sampling Frequency – Pescadero Landfill

Monitoring Location	**Analyses**	**EPA Method** (or equivalent)	**Sampling Frequency**
Leachate discharge locations	VOCs	8260	Leachate discharge (seep) - Each occurrence; daily until remedial action is taken or seep ceases
	SVOCs	8270	
	Dissolved Metals		
	Arsenic	7060 or 6010	
	Barium	6010	
	Cadmium	6010	
	Copper	6010	
	Chromium	6010	
	Lead	7421 or 6010	
	Mercury	7470	
	Nickel	6010	
	Vanadium	6010	
	Zinc	6010	
	pH	9040	
	Ammonia (total and unionized)	350.1	
	Cyanide	335.2	
	Pesticides/PCB	8080	
	Total Oil and Grease	SM5520B	
	COD	410.1	
	96-hour Toxicity Bioassay using Mysid Shrimp	N/A	